

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Intellectual Property Examination of
Inventor(s): Mills

Group Art Unit: 1745

Appln. No.: 09/110,717

Examiner: Kalafut
(For the Secret Committee)

Filing Date: 7/7/1998

Title: BATTERY, ELECTROLYTIC CELL, AND FUEL CELL

* * * * *

November 4, 2002

RESPONSE TO ADVISORY ACTION
DATED OCTOBER 7, 2002

Hon. Asst. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

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Sir:

Applicant respectfully submits that the Secret Committee of Examiners assigned to this case erroneously issued its Advisory Action dated October 7, 2002 based on two unsupported grounds.

First, the Secret Committee incorrectly claims that Applicant's Request for Continued Examination "does not appear to be timely filed" and that "this application would appear to be abandoned." [See Advisory Action at p. 2.] Notwithstanding the Committee's statement to the contrary, a Notice of Appeal was timely filed, on February 15, 2002, as evidenced by the enclosed copy and postcard receipt. Thus, this application was still pending when Applicant timely filed his Request for Continued Examination (RCE) on September 13, 2002, along with the required petition and fee for a five-month extension of time. The present application, therefore, should not be abandoned, but rather, should be given a complete examination, including full consideration of all experimental evidence and arguments submitted therein.

Second, Applicant respectfully submits that the Secret Committee improperly concocted the following excuses as a basis for dismissing Applicant's request for reconsideration submitted with the RCE, which included an overwhelming amount of evidence proving the existence of lower-energy hydrogen:

The request for reconsideration has been entered and considered but does not overcome the rejection because the request contains arguments which do not pertain to the patentability of the claims, and because there is no evidence presented which would prove applicant's contention that the theory of quantum mechanics is invalid.

The Secret Committee's first excuse for ignoring Applicant's request that the—"request contains arguments which do not pertain to the patentability of the claims"—is flat out wrong. Notably, the Committee fails to identify a single argument that does not somehow relate to the issue of patentability, which is not surprising since there is none. Applicant respectfully submits that all arguments presented in his RCE, including those relating to and detailing the prejudicial actions taken by the Secret Committee, do pertain to the patentability of the claims.

Furthermore, even if, *arguendo*, Applicant's request did contain what the Secret Committee considered to be a nonpertinent argument, that is no reason to refuse to fairly consider the arguments that clearly do address the issue of patentability. The Committee's refusal to do so merely reflects a continuation of its arbitrary and capricious approach to examining this application.

Another example of this arbitrary and capricious approach is the Secret Committee's second excuse for ignoring Applicant's abundant evidence that lower-energy hydrogen exists, namely, that "there is no evidence presented which would prove applicant's contention that the theory of quantum mechanics is invalid." [See Advisory Action at p. 2.] Here again, the Committee commits several errors that expose its faulty reasoning.

The first, most blatant error is the one requiring Applicant to prove that quantum theory is invalid. Quantum theory is just that—a theory. The fact that Applicant has

conceived an opposing theory that predicts the existence of lower-energy hydrogen does not put the burden on Applicant to prove quantum theory wrong. Applicant was not even required to advance his own theory explaining the lower-energy levels of hydrogen. Rather, the burden is on the Secret Committee to fairly evaluate Applicant's extensive experimental evidence that conclusively proves the existence of lower-energy hydrogen as presently claimed. To require that Applicant first demonstrate that the imagined world of quantum theory is invalid before the Committee will evaluate Applicant's real-world evidence creates an extreme standard that, once again, only highlights its arbitrary and capricious ways.

The second error is the Secret Committee's misstatement that no evidence was presented proving the invalidity of quantum theory. To the contrary, Applicant did submit experimental evidence that demonstrates the invalidity of quantum theory 54 different ways. [See pages 4-17 of the RCE filed on September 13, 2002.] In each of the 54 points raised, Applicant discusses experimental evidence that, according to quantum theory, cannot possibly exist. That evidence includes, for example: spectral lines for hydrogen where none should exist according to quantum theory; low-power plasmas that cannot exist according to quantum theory; new compositions of matter that cannot exist according to quantum theory; and much more.

Indeed, the mere existence of atomic hydrogen electron states below the 13.6 eV level by itself invalidates quantum theory. Quantum theory is not derived from first principles and relies on faith in the infallibility of the Schrodinger equation since it can not be directly experimentally confirmed. The faith in this premise is based on the exact solution of the hydrogen atom; however, even this has been shown to have major problems which are well known.¹ All further problems in QM rely on finding combinations of wavefunctions from an infinite selection that reproduce the desired

¹ R. Mills, "The Hydrogen Atom Revisited," Int. J. of Hydrogen Energy, Vol. 25, Issue 12, December, (2000), pp. 1171-1183; R. Mills, "The Nature of Free Electrons in Superfluid Helium—a Test of Quantum Mechanics and a Basis to Review its Foundations and Make a Comparison to Classical Theory", Int. J. Hydrogen Energy, Vol. 26, No. 10, (2001), pp. 1059-1096; and R. L. Mills, "Classical Quantum Mechanics", submitted.

data as eigenvalue solutions of the Schrodinger equation. Thus, the existence of hydrogen energy levels "below the ground state," a state that is an absolute QM definition, invalidates the fundamental premise upon which all of quantum mechanics is based and, thus, invalidates all quantum theory. The esteemed Einstein was right that "God does not play dice with the universe," meaning that reality is not created by the observer from a formless sea of probability waves; rather, the universe follows directly testable physical laws and is real in the absence of any observer.

In its typical arbitrary and capricious fashion, the Secret Committee failed to comment on a single one of the 54 points raised by Applicant that calls quantum theory into question, other than to erroneously conclude that no such evidence was presented. The Committee's unwillingness to analyze, much less even acknowledge, this mountain of evidence that cost Applicant millions of dollars to produce is simply outrageous and only lends further support to Applicant's previous complaints concerning the hostile approach the Committee has employed in examining this application.

Applicant has now submitted for peer review 80 scientific papers disclosing his experimental evidence of lower-energy states of hydrogen. Of these 80 papers, 34 of them have been published in prestigious journals after being thoroughly peer-reviewed by highly qualified PhD's; another 11 papers have been accepted for publication and 35 papers are currently under review. After requiring Applicant to submit his real-world scientific evidence for such critical review, the Secret Committee now blindly dismisses that evidence on purely theoretical grounds. In essence, the Committee is suggesting that its members, who have tied themselves to Applicant's competitor, *i.e.*, the American Physical Society (APS), are better qualified and, therefore, justified in ignoring the scientific evidence of record than the numerous unbiased PhD scientists who have actually reviewed and analyzed that evidence. And yet, when Applicant has requested that the Committee identify its members and that it acknowledge any APS input, or other third-party involvement, in the examination of this or other related

applications, the Committee uses that request as further justification for its arbitrary and capricious refusal to fairly evaluate Applicant's evidence.

Quite frankly, it is embarrassing the lengths to which the Secret Committee has gone to avoid a fair hearing on the merits of this case. Each and every time the Committee has concocted an absurd standard for dismissing Applicant's real-world evidence out of hand, Applicant has exposed the bankruptcy of its position, only to be confronted by another absurdity. First, the Secret Committee mischaracterized Applicant's novel hydrogen chemistry as "cold fusion," a highly controversial technology. When that label wouldn't stick, the Committee dropped that argument in favor of one that Applicant's novel hydrogen chemistry violated supposed laws of nature. After Applicant noted the Secret Committee's inability to identify a single law that is supposedly broken, the Committee reverted to yet another extreme position—that Applicant's invention violated "accepted ideas" of the scientific community. Now, in its most recent act of desperation, the Secret Committee imposes an even more ridiculous standard that requires Applicant to first prove that quantum theory is invalid before his experimental evidence of lower-energy will be considered.

Applicant has sought to avoid such embarrassment by providing the Secret Committee with highly credible evidence confirming the existence of lower-energy hydrogen. This evidence includes a wide variety of analytical studies, including spectroscopic data that even the APS' own spokesman, Dr. Robert Park, has acknowledged would be critical in identifying lower-energy levels for hydrogen.

Despite the high degree of reliability of spectroscopic data, the Committee's main substantive comment to date on Applicant's spectroscopic data is Examiner Jagganathan's characterization of it as a "bunch of squiggly lines." The Secret Committee also has argued that the spectroscopic data is not persuasive since the "transitions are shown in a portion of the spectra that is essentially in the noise region and therefore could not have been assigned with confidence." [See page 57 of Attachment to Office Action dated August 16, 2001.] It further argues that Applicant's

theory is improper and, thus, "any prediction from such an improper theory with leads to an assignment of spectral lines is *clearly devoid* of meaning." [See page 63 of Attachment to Office Action dated August 16, 2001.] If the Secret Committee is not qualified to evaluate this and other scientific evidence submitted by Applicant—as is apparently the case—rather than concoct strained excuses for dismissing it, the Committee should enlist the services of a competent chemist, perhaps original Examiner Kalafut or Examiner Langel who allowed five applications after performing such an evaluation.

The time has come for the Secret Committee to stop treating the examination of this and other BlackLight applications as an adversarial proceeding. Its continued pattern of erecting arbitrary and capricious "roadblocks" to the patenting of Applicant's novel hydrogen chemistry, while perhaps momentarily effective in maintaining funding for APS-backed programs based on a competing theory, does little to carry out the PTO's Constitutional mission of "promoting the progress of science and useful arts." Whatever bias the Committee may harbor against the theory underlying Applicant's invention, that bias should not be allowed to interfere with established administrative procedures controlling the proper examination of this case, including a fair hearing on the evidence of record.

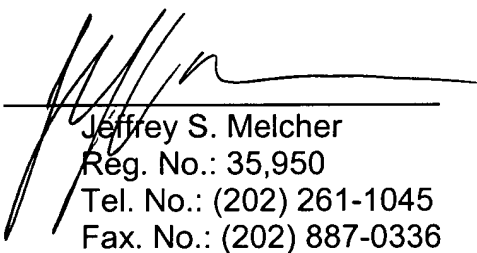
Unfortunately for the Applicant, of all the indignities he has had to suffer throughout this examination, perhaps the most abusive is the Secret Committee's latest unprecedented requirement that Applicant prove the invalidity of quantum theory before he can get that fair hearing. Apparently, the Committee has decided that no amount of evidence documenting the existence of lower-energy hydrogen will ever convince it to issue a patent on this novel catalytic chemistry. Or, if there is some level of documentation that would convince it to issue a patent, the Committee has unfairly refused to share that information with Applicant.

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Prior to taking an appeal in this case, Applicant suggests that the Secret Committee reconsider its inflexible approach. Accordingly, Applicant requests entry of the Notice of Appeal previously filed in this case and full and fair consideration of all experimental evidence of record, including a specific critique of any and all such evidence not accepted as proof of the existence of lower-energy hydrogen.

Respectfully submitted,

Manelli Denison & Selter PLLC

By 
Jeffrey S. Melcher
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Customer No. 20736

U.S. Serial No.: 09/110,717 Inventor: Mills Date: February 15, 2002

Enclosed Items:

Response to final Office Action- 90 pages

Appendix to Response – 168 pages

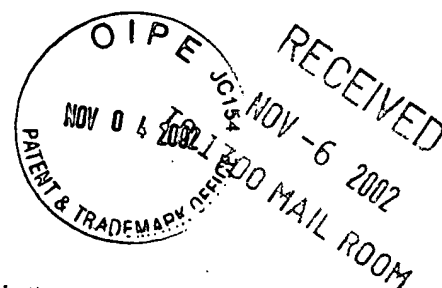
Petition for Three Months Extension

Notice of Appeal

Rule 132 Declaration of Dr. Mills

Two (2) Information Disclosure Statements

Check: \$650



Copies of following publications of Dr. Mills providing experimental evidence:

1. H. Conrads, R. Mills, Th. Wrubel, "Emission in the Deep Vacuum Ultraviolet from an Incandescently Driven Plasma in a Potassium Carbonate Cell", Plasma Sources Science and Technology, submitted.
2. R. L. Mills, P. Ray, "Stationary Inverted Lyman Population Formed from Incandescently Heated Hydrogen Gas with Certain Catalysts", Chem. Phys. Letts., submitted.
3. R. L. Mills, B. Dhandapani, J. He, "Synthesis and Characterization of a Highly Stable Amorphous Silicon Hydride", Int. J. Hydrogen Energy, submitted.
4. R. L. Mills, A. Voigt, B. Dhandapani, J. He, "Synthesis and Characterization of Lithium Chloro Hydride", Int. J. Hydrogen Energy, submitted.
5. R. L. Mills, P. Ray, "Substantial Changes in the Characteristics of a Microwave Plasma Due to Combining Argon and Hydrogen", New Journal of Physics, submitted.
7. R. L. Mills, P. Ray, "High Resolution Spectroscopic Observation of the Bound-Free Hyperfine Levels of a Novel Hydride Ion Corresponding to a Fractional Rydberg State of Atomic Hydrogen", Int. J. Hydrogen Energy, in press.
8. R. L. Mills, E. Dayalan, "Novel Alkali and Alkaline Earth Hydrides for High Voltage and High Energy Density Batteries", Proceedings of the 17th Annual Battery Conference on Applications and Advances, California State University, Long Beach, CA, (January 15-18, 2002), in press.
9. R. Mayo, R. Mills, M. Nansteel, "On the Potential of Direct and MHD Conversion of Power from a Novel Plasma Source to Electricity for Microdistributed Power Applications", IEEE Transactions on Plasma Science, submitted.
10. R. Mills, P. Ray, J. Dong, M. Nansteel, W. Good, P. Jansson, B. Dhandapani, J. He, "Excessive Balmer α Line Broadening, Power Balance, and Novel Hydride Ion Product of Plasma Formed from Incandescently Heated Hydrogen Gas with Certain Catalysts", Int. J. Hydrogen Energy, submitted.
11. R. Mills, E. Dayalan, P. Ray, B. Dhandapani, J. He, "Highly Stable Novel Inorganic Hydrides from Aqueous Electrolysis and Plasma Electrolysis", Japanese Journal of Applied Physics, submitted.
12. R. L. Mills, P. Ray, B. Dhandapani, J. He, "Comparison of Excessive Balmer α Line Broadening of Glow Discharge and Microwave Hydrogen Plasmas with Certain Catalysts", Chem. Phys., submitted.
13. R. L. Mills, P. Ray, B. Dhandapani, J. He, "Spectroscopic Identification of Fractional Rydberg States of Atomic Hydrogen", J. of Phys. Chem. (letter), submitted.
14. R. L. Mills, P. Ray, B. Dhandapani, M. Nansteel, X. Chen, J. He, "New Power Source from Fractional Rydberg States of Atomic Hydrogen", Chem. Phys. Letts., submitted.
15. R. L. Mills, P. Ray, B. Dhandapani, M. Nansteel, X. Chen, J. He, "Spectroscopic Identification of Transitions of Fractional Rydberg States of Atomic Hydrogen", Quantitative Spectroscopy and Energy Transfer, submitted.
16. R. L. Mills, P. Ray, B. Dhandapani, M. Nansteel, X. Chen, J. He, "New Power Source from Fractional Quantum Energy Levels of Atomic Hydrogen that Surpasses Internal Combustion", Spectrochimica Acta, Part A, submitted.
17. R. L. Mills, P. Ray, "Spectroscopic Identification of a Novel Catalytic Reaction of Rubidium Ion with Atomic Hydrogen and the Hydride Ion Product", Int. J. Hydrogen Energy, in press.
18. R. Mills, J. Dong, W. Good, P. Ray, J. He, B. Dhandapani, "Measurement of Energy Balances of Noble Gas-Hydrogen Discharge Plasmas Using Calvet Calorimetry", Int. J. Hydrogen Energy, in press.
19. R. L. Mills, A. Voigt, P. Ray, M. Nansteel, B. Dhandapani, "Measurement of Hydrogen Balmer α Line Broadening and Thermal Power Balances of Noble Gas-Hydrogen Discharge Plasmas", Int. J. Hydrogen Energy, in press.
20. R. Mills, P. Ray, "Vibrational Spectral Emission of Fractional-Principal-Quantum-Energy-Level Hydrogen Molecular Ion", Int. J. Hydrogen Energy, in press.
21. R. Mills, P. Ray, "Spectral Emission of Fractional Quantum Energy Levels of Atomic Hydrogen from a Helium-Hydrogen Plasma and the Implications for Dark Matter", Int. J. Hydrogen Energy, Vol. 27, No. 3, (2002) pp. 301-322.
22. R. Mills, P. Ray, "Spectroscopic Identification of a Novel Catalytic Reaction of Potassium and Atomic Hydrogen and the Hydride Ion Product", Int. J. Hydrogen Energy, Vol. 27, No. 2, (2002), pp. 183-192.
23. R. Mills, "BlackLight Power Technology-A New Clean Hydrogen Energy Source with the Potential for Direct Conversion to Electricity", Proceedings of the National Hydrogen Association, 12th Annual U.S. Hydrogen Meeting and Exposition, *Hydrogen: The Common Thread*, The Washington Hilton and Towers, Washington DC, (March 6-8, 2001), pp. 671-697.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Re: Appeal to the Board of Patent Appeals and Interferences

In re PATENT APPLICATION of
Inventor(s): Mills

Group Art Unit: 1745

Appln. No.: 09/110,717

Examiner: Kalafut for Secret Committee

Filing Date: 7/7/1998

Title: BATTERY, ELECTROLYTIC CELL, AND FUEL CELL

February 15, 2002

Sir:

- 1 ☒ **NOTICE OF APPEAL:** Applicant hereby appeals to the Board of Patent Appeals and Interferences from the decision (not Advisory Action) dated of the Examiner twice/finally rejecting claims
- 2 ☐ **BRIEF** on appeal in this application attached in triplicate.
- 3 ☐ An **ORAL HEARING** is respectfully requested under Rule 194 (due two months after Examiner's Answer – unextendable).
- 4 ☐ Reply Brief is attached in triplicate (due two months after Examiner's Answer – unextendable).
- 5 ☒ "Small entity" ☐ herewith. ☒ previously.

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| 6 FEE CALCULATION: | | Large/Small Entity | |
| If box 1 above is X'd, see box 12 below <u>first</u> and decide: enter | | \$ | \$160 |
| If box 2 above is X'd, see box 12 below <u>first</u> and decide: enter | | \$ | \$ |
| If box 3 above is X'd, see box 12 below <u>first</u> and decide: enter | | \$ | \$ |
| If box 4 above is X'd, enter nothing | | - 0 - (no fee) | |
| 7. Original due date: Petition Requested and Fees Paid In Accompanying Fee Transmittal | | | |
| 8. Petition is hereby made to extend the original due date to cover (1 months) the date this response is filed for which the requisite fee is attached (2 months) (3 months) (4 months) (5 months) | | | |
| 9. Enter any previous extension fee paid [] previously since above original due date (item 7); [X] with concurrently filed amendment | | | |
| 10. Subtract line 9 from line 8 and enter: Total Extension Fee | | | +190 |
| 11. TOTAL FEE ATTACHED = | | | \$190 |

12. ☐ *Fee NOT required if/since paid in prior appeal in which the Board of Patent Appeals and Interferences did not render a decision on the merits.

CHARGE STATEMENT: The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (missing or insufficient fee only) now or hereafter relative to this application and the resulting Official document under Rule 20, or credit any overpayment, to our Account Order Nos. 50-0687/62226 for which purpose a duplicate copy of this sheet is attached. This CHARGE STATEMENT does not authorize charge of the issue fee until/unless an issue fee transmittal form is filed.

Manelli Denison & Selter, PLLC

Customer No.: 20736

Att::

Jeffrey S. Melcher
Reg. No. 35,950
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Fax: (202) 887-0336



1745

Form: PTO/SB/17 (Modified)

| | | | |
|--|----------------------|---------------|---------|
| REPLY/AMENDMENT FEE TRANSMITTAL | Attorney Docket No. | 0113-19-C16 | |
| | Application Number | 09/110,717 | |
| | Filing Date | 7/7/98 | |
| | First Named Inventor | Mills | |
| | Group Art Unit | 1745 | |
| AMOUNT ENCLOSED | \$0 | Examiner Name | Kalafut |

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FEE CALCULATION (fees effective 10/01/97)

| CLAIMS AS AMENDED | Claims Remaining After Amendment | Highest Number Previously Paid For | Number Extra | Rate | Calculations |
|---|-------------------------------------|---------------------------------------|------------------|-------------|--------------|
| TOTAL CLAIMS | 376 | 496 | 0 ⁽³⁾ | X \$18.00 = | 0 |
| INDEPENDENT CLAIMS | 3 | 3 | 0 | X \$80.00 = | 0 |
| Since an Official Action set an original due date of None, petition is hereby made for an extension to cover the date this reply is filed for which the requisite fee is enclosed (1 month (\$110); 2 months (\$400); 3 months (\$950); 4 months (\$1,510); 5 months (\$2,060)): 3 Months | | | | | |
| Multiple Dependent Claims Fee | | | | | |
| Total of above Calculations = | | | | | \$ |
| Reduction by 50% for filing by small entity (37 CFR 1.9, 1.27 & 1.28) | | | | | - |
| TOTAL FEES DUE = | | | | | \$0 |
| <small>(1) If entry (1) is less than entry (2), entry (3) is "0". (2) If entry (2) is less than 20, change entry (2) to "20". (4) If entry (4) is less than entry (5), entry (6) is "0". (5) If entry (5) is less than 3, change entry (5) to "3".</small> | | | | | |

METHOD OF PAYMENT

- ☒ Check enclosed as payment.
- ☐ Charge "TOTAL FEES DUE" to the Deposit Account No., below.

AUTHORIZATION

- ☒ If the above-noted "AMOUNT ENCLOSED" is not correct, the Commissioner is hereby authorized to credit any overpayment or charge any additional fees under 37 CFR 1.16 or 1.17 necessary to maintain pendency of the present application to:

Deposit Account No.: 50-0687

OrderNo.: (Client/Matter) 62-226

SUBMITTED BY: Manelli Denison & Selter, PLLC

| | | | |
|------------|--------------------|----------|------------------|
| Typed Name | Jeffrey S. Melcher | Reg. No. | 35,950 |
| Signature | | Date | November 4, 2002 |